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U.S. Food Processors Expanding Overseas

Corn Still King In Midwest
page 10

Editor
Jack Harrison

Editorial Assistant
Martha R. Evans

(202) 786-1494

Assistant editors: Doug Martinez, Juliana King, Judith Foulke, Wendy Pinchas.
Art director: Barbara C. Allen.
Cover design by Jessica Murphy.

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PERSPECTIVES

SALES OF U.S. GRAIN TO THE SOVIET UNION this fiscal year are already at a record high level in volume—and the year doesn't end until September 30. The total as of early May was about 20 million tons. The Fiscal 1988 total was 14.4 million tons and the previous record 18.6 million tons.

The value of the grain, as of early May, was already 60% higher than the total for the previous year and was approximately equal to the record of $2.3 billion set in 1985.

Sales of U.S. corn to the Soviet Union stood at 15 million tons in early May, nearly tripling last year's total. The Soviet Union is likely to be the top buyer of U.S. corn this year. ERS economist Christian Foster lists several reasons for the big boost in Soviet buying of U.S. corn:

> 1. Increased demand for feed grains because of lower Soviet production of coarse grains and forages in 1988. 2. Tight supplies of feed grains in competitor nations as a result of the 1988 drought. 3. Prices favoring U.S. corn over Canadian and European Community barley. 4. Continued Soviet priority on livestock production. 5. Improving political relations between the United States and the Soviet Union.

The value of this year's U.S. corn sales to the Soviet Union should be at least three times last year's $541 million, Foster says. The unit price of corn is more than 25% higher this year.

In April the United States raised to 24 million tons the maximum amount of grain the Soviets can buy this year without consultation under the agreement between the two countries. It was the third time this year the limit had been raised.

Stimulated partly by EEP (Export Enhancement Program) bonuses, the Soviet Union has already bought more than the 4 million tons of U.S. wheat called for in the purchase agreement. As of early May, the USDA had offered the Soviets 5.5 million tons of EEP wheat for purchase this year. Bonuses averaged about $23 per ton on the first 4 million tons, Foster says. This compares with the average $35 per ton bonuses on EEP sales during the two previous years. Recent EEP bonuses on Soviet wheat purchases have been under $10 a ton. All EEP bonuses to the Soviets during the three fiscal years total more than $500 million, the economist says.

Soviet purchases of U.S. wheat this year are unlikely to reach last year's record 9 million tons, Foster says, because of higher world prices and higher Soviet procurement last year of quality wheat. But in value terms, the nearly 65% increase in the price of U.S. wheat this year should offset the lower volume of sales to the Soviets, Foster says.

The current fiscal year also has seen the first significant purchases of U.S. grain sorghum, totaling more than 750,000 tons as of early May.

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Practical economic intelligence from USDA's Economic Research Service

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U.S. food processing firms have been increasing their investments in overseas facilities, as a major strategy for boosting sales. In many cases, it is easier and cheaper to produce consumer food products abroad instead of exporting them from U.S. plants. ERS economists analyze the trend.

Environmental Goals: A Challenge for Lawmakers *by Judith Foulke* 14

The next farm bill, scheduled to be written in 1990, may reflect increased concern with environmental issues. Policymakers and economists are therefore studying the effectiveness of conservation provisions in past legislation. They say they're learning what works and what needs to be worked on.

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U.S. Food Processors Expanding Overseas

American food marketing firms are aggressively going after the growing foreign market for high-value and highly processed foods—from the inside.

"Many of the largest U.S. food processors are increasing their investments in foreign plants," says economist Naaman Seigle of USDA's Economic Research Service. "Large U.S. food processors will continue to acquire or build foreign food processing plants as a major strategy for boosting sales."

These firms are finding it easier, and cheaper in many cases, to produce finished consumer food products in foreign plants rather than to export from U.S. plants.

"One obvious reason is that setting up production facilities in foreign countries avoids tariff and most nontariff trade barriers," says Seigle. "But even where trade barriers are minor, many firms apparently prefer producing in the foreign country—rather than exporting—for other reasons."

Those other reasons start with transportation, he says, which is especially important for products where consumer packaging adds considerable weight.

Being in the country also serves to ease dealings with local governments and regulatory agencies.

And, for value-added consumer products, says Seigle, "it is easier to keep current on local tastes and opportunities for new product development or reformulations when products are produced in the foreign country."

In some cases, firms embark on foreign investment by acquiring established brands in foreign countries and using those facilities as a base for further expansion, he says.

Improving Access to Markets

Such a strategy of taking over existing plants—or of building new ones—to produce a product may improve access to local food distribution firms and facilitate a variety of marketing and promotional activities involved in selling a brand-name consumer product.

Many of the largest U.S. food processors are increasing their investments in foreign plants.

"Finally, a firm that initially exports to a foreign market may decide to switch to foreign production once the export market becomes large enough," says Seigle.

He cites the example of mayonnaise—and Chile.

"CPC International used to export Hellman's brand mayonnaise to Chile," Seigle says. "But in 1986, CPC opened a new plant in Chile to manufacture mayonnaise and other products, thus eliminating a major export market. The paradox here is that the very success and growth of an export market led to its elimination as it became more profitable for the firm to switch from exporting to producing the product in its foreign subsidiary."

When a company makes this move, it can add a confusing element to the tracking of American sales abroad, says Seigle.

"This is an example of how foreign trade data—looking just at the statistics of American food exports to other countries—can be a misleading measure of 'competitiveness,'" he says.

However, "even sales from foreign subsidiaries alone tend to understate the full international presence of many U.S. food processors," Seigle says. "In reporting their foreign sales, most U.S. food processors do not include licensing and joint venture operations."

For instance, Seigle notes, many U.S. brewers, including Miller and Coors, license Canadian firms to produce their brands in Canada. "Many American companies prefer to license foreign firms to produce specific branded products in order to avoid the expense of establishing their own foreign subsidiaries."

While licensing generally requires no direct investment in foreign production facilities, a U.S. firm does spend money on market research to identify reliable foreign companies, develop production and marketing procedures, and establish quality control safeguards.

Joint Ventures

Another strategy used by American companies to compete overseas is the cooperative arrangement, which sometimes can mask the extent of American penetration into foreign markets.

"U.S. food processors are increasingly developing joint ventures," says Seigle, "especially in centrally planned economies. Both Heinz and RJR/Nabisco have recently established joint venture food processing operations in China."

Joint ventures permit a U.S. firm to gain the production, marketing, and regulatory know-how of a host-country firm without the expense of acquiring a wholly owned subsidiary. These ventures allow American companies to enter countries which otherwise restrict outside ownership of firms.

U.S. Companies Operate More Foreign Plants in Europe Than Any Other Region

*Includes Australia and New Zealand. All figures are as of the end of 1986, and were provided by ERS economist Naaman Seigle.

That's the case in China, India, and Mexico, which require that companies operating plants in their countries have less than 50 percent foreign ownership.

Licensing and joint ventures are often nearly invisible as far as being reported in public statistical information. Data on licensing and joint ventures are generally not included in trade and investment statistics. They are even frequently omitted from company annual reports.

These are just some of the findings from a long-term study being conducted by Seigle and fellow ERS economist Charles Handy. They're researching the international operations of some 60 of the leading (publicly held) U.S. food processing firms, whose food sales in 1986-87 ranged from over $10 billion to $27 million. Total processed food sales for these firms came to $148 billion in 1986-87.

What Seigle and Handy are discovering is that our largest food marketing firms are not, in general, major exporters of high value-added food products. "Rather than rely on exports, it appears that large food processors use foreign investment as the major strategy to gain sales in international markets," says Seigle.

In fact, he says, these firms typically exported a lower percentage of their domestic production than the average for all U.S. food processing plants. From their total U.S. food sales of $119 billion, these 62 firms exported only $3.4 billion, or 2.9 percent, of their sales. "By comparison, all U.S. food processing establishments exported an average of 4 percent of their sales, according to U.S. Census Bureau data."

Only three of the 62 firms studied had exports that exceeded 15 percent of their domestic processed food sales. One firm, Riceland, is a cooperative and a major exporter of rice and other grain products. Another company, Archer Daniels Midland, exports large quantities of feed and other bulk grain mill products. The other firm, Knouse Foods, exports many different foods under various labels. Only five other companies had exports that rose above 5 percent of their domestic sales, Seigle says.

At the other end of the scale, he says, "four firms reported no export sales at all. They include some very large processors with internationally recognized brand names. Seventeen firms had exports of less than 1 percent of sales, while another 21 firms in our study exported only 1 to 3 percent of their domestic sales. Sixteen firms exported between 3.1 and 7.5 percent of their domestic sales."

Understating U.S. Presence

But export statistics, by themselves, greatly understate the foreign presence of U.S. food processors, Seigle repeats.

"Indeed, 36 of the 62 firms in our study owned food processing plants in foreign countries," he says. "These 62 firms operated a total of 2,345 processing plants—74 percent located in the United States and 26 percent located in foreign countries."

Among the leaders in this initiative are names that are commonly, and usually solely, identified with American consumers (and their pets): Campbell Soup, Heinz, and Ralston Purina. A third of Campbell Soup's plants are in foreign countries. For Quaker Oats and Ralston Purina, the proportion rises to one-half or more.

"Sales from these foreign plants accounted for 19 percent of total processed food sales for the 62 firms," says Seigle. "Thus, large U.S. food processors receive 19 percent of their sales from foreign subsidiaries while exports account for less than 3 percent of sales."

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Foreign subsidiaries comprise a substantial share of sales for many U.S. food processors. A pair of companies—CPC International and Coca-Cola—receive over 50 percent of their processed food (and beverage) sales from foreign operations. An additional 9 firms received between 30 and 50 percent of their sales from their foreign holdings. And 9 firms reported 15 to 29 percent of their sales come from foreign subsidiaries.

"But foreign investment is by no means universal for these large firms," says Seigle. "Twenty-six of the 62 firms reported no sales from foreign operations. While most of these firms did engage in exports, 4 firms said they had no export sales as well as no sales from foreign operations."

Seigle is not suggesting, though, that high-value American food exports will remain very limited in the face of foreign investment and plants favored by the largest U.S. food-processing firms.

"While many of the largest U.S. processors are not major exporters, hundreds of medium and smaller size processors have opportunities to identify and develop export markets for specialty products and for market niches too small to interest the largest firms," says Seigle. "Sun-Diamond Growers (almonds), Tri/Valley Growers (canned fruits and vegetables), Welch's Foods (fruit juices and grape products), Smuckers (jellies and jams), and Thorn Apple Valley (meats and meat products) are examples of medium-size firms that have worked hard to develop export markets."

Since 1986, he says, there have been major increases in our traditionally strong export markets for grain mill products, soy meals, and fish and seafood. "Exports have also increased significantly for red meats, poultry, processed fruits and vegetables, confectionery products, and beverages. Current efforts to reduce trade barriers could be especially important for increasing trade in this latter group of industries. Negotiations with Taiwan, Japan, and South Korea have further opened these markets to U.S. beer and wine exports, which increased 40 percent and 72 percent, respectively, in 1987 over 1986."

Wholesalers Involved in Exports

Moreover, U.S. general-line grocery wholesalers are also becoming more active in exporting processed food products.

"Leading grocery wholesalers like Super-Valu and Fleming reported exports averaging about $18 million," says Seigle. "Wholesalers have an advantage in that they can combine orders for several brands from different processors into a single shipment to foreign customers."

That doesn't mean that products at the expensive end of the high-value scale will come to dominate high-value exports.

"For a variety of production cost and marketing reasons," says Seigle, "the majority of U.S. food processing exports are in lower value-added and bulk semi-finished products such as grain mill products, cattle hides, bulk fats and oils, and fresh or frozen fish and seafood. This is likely to continue."

Even so, "exports of high value-added products are increasing and are likely to continue to expand," says Seigle. "Many smaller and medium-sized processors have developed important export markets. Wholesalers are also expanding their exports of processed products."

But that is not expected to be the pattern of the future for the largest U.S. food processors.

"These firms report very modest sales abroad of finished consumer food products," says Seigle. "They generally do not expect large growth in their exports of these products."

Instead, he says, they will concentrate on foreign investment in plants and foreign licensing and joint venture arrangements.

The evidence so far suggests that American multinational food firms are adjusting very well to their overseas locations.

"Although the reasons for producing in foreign markets are largely market-related," says Seigle, "U.S. food processors are working hard to improve productivity in their foreign operations and become the low-cost producer in their host country."

That also means they want to take advantage of developments in other countries that could prove beneficial to their businesses.

"The scheduled removal of all internal trade barriers in the European Community in 1992 provides opportunities to obtain further economies of scale in European-based plants," says Seigle. "That can't help but encourage more American business involvement over there." □

[Based primarily on information provided by economists Naaman Seigle and Charles Handy of the Commodity Economics Division, Economic Research Service.]

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Foreign Facilities Tap New Markets

By being abroad—and producing for foreign markets from foreign facilities—American food processors may actually be helping to create larger markets for U.S.-made products.

How so?

"By creating purchasing power that is used to buy American goods," says ERS economist Naaman Seigle.

He explains that much of the foreign market for U.S. food products would not exist on an export basis. Buying or building foreign plants is the only way U.S. companies can tap lucrative markets overseas, in many cases. And all the ways a U.S. company abroad interacts with the foreign country's economy—from buying raw foodstuffs and other local inputs to hiring and paying a local work force—generate money and the ability of foreign consumers to buy American-made items.

Seigle is not saying that American companies have gone abroad for this reason. They've gone in search of new markets.

"But the economic effect of their presence in other nations may ultimately be helping to boost the level of U.S. exports," he says.

Seigle cites the example of the H. J. Heinz Co. in Zimbabwe to show how foreign subsidiaries of U.S. companies rely almost totally on local resources and people—and thereby generate jobs and income that otherwise might not exist.

There, he says, "Heinz is using local tomatoes and the local labor force to produce tomato products for the people of Zimbabwe and for export to other African nations and the EC. It's helping the Zimbabwean economy and providing products that would be too expensive for most people there and in other African countries if they were manufactured in, and exported from, the United States."

U.S. food processors are also finding ready markets for their foreign-made products in countries with much more money and a growing taste for American brand-name items—namely the newly industrializing nations.

These are mainly the economic powers of the Pacific Rim—including South Korea, Taiwan, and Singapore—whose export-driven economies are creating higher incomes, better diets, and a greater demand for American food products.

Certainly, some of that demand is being met by direct export of American beef, citrus, and other products to these countries. But it is also being satisfied by foreign subsidiaries of such American companies as CPC International and Coca-Cola.

The presence of Coca-Cola, in bottling plants all over the world (and sales in 155 countries), points up another significant reason why the on-site foreign location makes economic sense, especially for food processing companies.

"Water weighs a lot, and companies don't want to be paying for moisture in the export of their products," says Seigle. "Apart from beverages, most foods have a lot of moisture."

But foreign plants of U.S. processors do much more than add water or follow the precise formula of making, say, ketchup the same way it's made in Fremont, Ohio, site of Heinz' largest ketchup production facility.

"In fact," says Seigle, "you can taste the differences all over the world in American brand-name products. By locating plants in foreign countries, it's easier to produce products that meet local taste preferences. Sometimes, the American product is unfamiliar in foreign countries and has to be reformulated in order to be acceptable."

That's true of ketchup in Zimbabwe and American soft drinks bottled in China. The label still bears the brand-name of an American company, but the taste is a bit different.

There is an interesting parallel to this approach in something happening in the United States.

In an effort to win over the loyalty (and food dollars) of Hispanic consumers—many of them recent immigrants to America—several large U.S. food processors are bringing in products from Latin America and seeking to match the tastes and textures with brand-name products of their own.

AGRICULTURAL ROUNDUP

How Efficient Is Soviet Agriculture?

Agricultural production in the Soviet Union has long been a source of concern to the country's leadership.

Soviet President Mikhail Gorbachev, in a speech early this year to the Central Committee of the Communist Party, sharply criticized his country's agricultural system and called for broad reforms.

He noted that while investment in agriculture in the Ukraine had increased by 320 percent over the past 20 years, output had grown by only 39 percent.

The cost of producing the Soviet Union's considerable agricultural output continues to be much greater relative to costs in the West despite higher, and ever-increasing, levels of government investment.

One way to analyze Soviet problems in agriculture is to examine relative levels of technical efficiency in Western vs. Soviet farming. ("Technical efficiency" is a measure of output per amount of inputs, or resources, used.)

Is Soviet agriculture technically efficient? Do the Soviets get the most output possible from their available resources?

Western researchers have assumed that Soviet agriculture is less technically efficient than Western agriculture. But is it?

Economist Robert Koopman of USDA's Economic Research Service says there is room for doubt.

"The Soviets combine resources differently than we do. For instance, they use relatively more labor and less machinery than we do. But considering the way they use their resources, they appear to be just as technically efficient as we are," Koopman says.

"They seem able to use an older, more labor-intensive technology efficiently."

Understanding the reasons for successive failures of Soviet agriculture is important because the Soviet Union, despite its superpower status, still cannot satisfy its population's demand for food and is forced to spend huge sums on imports.

Even though progress has been made—livestock production was up in 1988, for instance—it is debatable how much of that progress can be attributed to government policies. Whether or not reforms already advanced have made inroads, Soviet agriculture remains an underachiever, a veritable "sinkhole" for valuable resources, Koopman says.

Western observers point out that the Soviet farm sector is plagued by a host of problems. The system provides no incentives for farmers to produce more than the minimum required. Management and labor decisions are decreed from off the farms, for the most part. Storage, processing, and transportation facilities are inadequate. Machinery design is antiquated. Weather is often inhospitable. Alcoholism is rampant.

Couldn't it be assumed that these myriad problems cause Soviet agriculture to be less technically efficient than Western agriculture?

Given the higher degree of government intervention, wouldn't the Soviet system of agriculture suffer from a higher level of technical inefficiency?

Western researchers have always assumed that centrally planned economies such as the Soviet Union's waste resources. But this is not necessarily true, Koopman says.

Soviet agriculture differs from U.S. agriculture in the way it combines resources, and Soviet production costs are higher. But given the available resources, Soviet farmers produce near the maximum output possible, Koopman says.

U.S farmers might make more use of equipment, while Soviet farmers rely more on manpower. But the Soviets still might achieve the most output possible considering their different mix of resources, the economist says.

Officials of a Soviet farm collective examine plants in a field of rape that is being combined.

American agriculture gets more output per worker, because our technology is more sophisticated. But Soviet farmers often do as well as possible with their resources.

These findings resulted from a comparison of agricultural production in the 15 Soviet republics, 10 U.S. states, 4 Canadian provinces, and Finland.

"We assumed, for the sake of our hypothetical model, that each country used the same resources —fertilizer, labor, livestock, machinery, and land—but in different combinations," Koopman says.

"We found that the Soviet and non-Soviet portions of the sample were almost equally efficient." In fact, 7 of the 10 most efficient regions were from the Soviet sample, with Soviet Georgia ranking first. South Dakota had the highest efficiency rating of the American sample.

However, the differences in efficiency estimates between areas weren't statistically significant, Koopman says, so strong comparisons would be inconclusive.

The results don't mean that agricultural production in the Soviet Union is as cost-effective as in the other nations studied, the economist says. It's not. But Soviet agriculture generally achieves as great an output as possible—as great as the non-Soviet areas were able to achieve—given the resources available to work with.

Koopman notes that the range between most and least efficient regions was wider in the Soviet sample than in the non-Soviet sample. He says this suggests that perhaps consistent levels of efficiency are more possible in market economies than in centrally planned economies.

Further, the more efficient areas used more capital and less labor than the less efficient areas, the analyst says.

Thus, the ills of Soviet agriculture—such as heavy handedness by planners and the lack of incentives for farmers—appear to have little impact on technical efficiency as compared with the non-Soviet regions studied, Koopman says.

He adds that the Soviet Union apparently cannot count on increasing output by boosting the technical efficiency of its agricultural system.

"They don't seem to have much room to increase output by im-

proving the way they allocate resources," Koopman says. Studies estimate "allocative efficiency" of between 93 and 96 percent in the Soviet Union, which means that output could be increased by only 4 to 7 percent through reallocation of resources.

So what is causing the stagnation in Soviet agriculture, if not in the economy as a whole?

Koopman believes that the Soviets are technically and allocatively efficient, but lack "dynamic efficiency"—the ability to grow efficiently.

"The Soviet and non-Soviet systems sampled have nearly equal levels of technical efficiency, but the non-Soviet areas are more effective at growth," he says. "Perhaps the reason lies in the inability of central planners to facilitate innovation and technological change."

Soviet farmers are slow at introducing new technology because they are in a sense hamstrung by their government, the economist says.

When they need new equipment, they have to request it from central authorities, who may or may not plan to produce such equipment in the next 5-year plan. Governments in the West play no such role.

When technology is static, Soviet farming can be considered technically efficient. But since technology changes over time, the Soviets cannot be considered dynamically efficient.

"They're already using more and more resources and not achieving any greater output. They need to encourage more flexibility, more autonomy, more incentives to innovate, rather than just trying to improve their allocation and use of resources," Koopman says.

The Chinese government has tried to give farmers incentives to produce more. And this has worked because agriculture in China is labor intensive.

But Soviet officials need to do more because their system isn't as labor intensive—although more so than the U.S. system. As long as they don't give more freedom to their farmers to select what inputs they need, just giving incentives to workers isn't going to be enough, Koopman says.

—Wendy Pinchas

Few Foreigners Own U.S. Farmland

Foreign ownership of U.S. agricultural land increased only slightly during 1988, still totaling less than 1 percent of all such land.

Reports under the Agricultural Foreign Investment Disclosure Act showed that foreigners owned 12.5 million acres of privately owned farmland and forest land as of December 31, 1988.

The total was 99,100 acres larger than the figure reported at the end of 1987.

Analyst J. Peter DeBraal of USDA's Economic Research Service says that forest land accounts for 48 percent of the foreign-owned acreage, cropland 17 percent, pasture and other agricultural land 30 percent, and rural land not currently in agricultural production 5 percent.

About 80 percent of the foreign holdings are owned by corporations, 11 percent by partnerships, 7 percent by individuals, and 2 percent by estates, trusts, associations, and other institutions.

Not all the land is totally owned by foreigners. Some 60 percent of the "foreign-held acreage" is owned by U.S. corporations in which foreign persons "have a significant interest or substantial control." The remaining 40 percent is owned by foreigners not affiliated with U.S. corporations.

When the total of 12.5 million acres is adjusted for the partial interests, the foreign-held acreage drops to an equivalent of 11.6 million acres.

Japanese own just 2 percent of the foreign-held acreage. About three-fourths is accounted for by residents of the United Kingdom, Canada, France, West Germany, the Netherlands, the Netherlands Antilles, and Switzerland.

Maine has more foreign-owned acres, almost all in forest, than any other state, accounting for 14 percent of the total for the country and 9.6 percent of Maine's privately held agricultural land. Three companies own 91 percent of Maine's foreign-held acreage. Two are Canadian and the other is a U.S. corporation that is partially French-owned.

The South has 36 percent of all U.S. foreign-held agricultural land and the West 35 percent. Rhode Island is the only state with no reported foreign-owned agricultural land.

Foreigners who acquire U.S. farmland tend to keep it in production, DeBraal says. No change in intended use was reported for 93 percent of the acreage.

—Jack Harrison

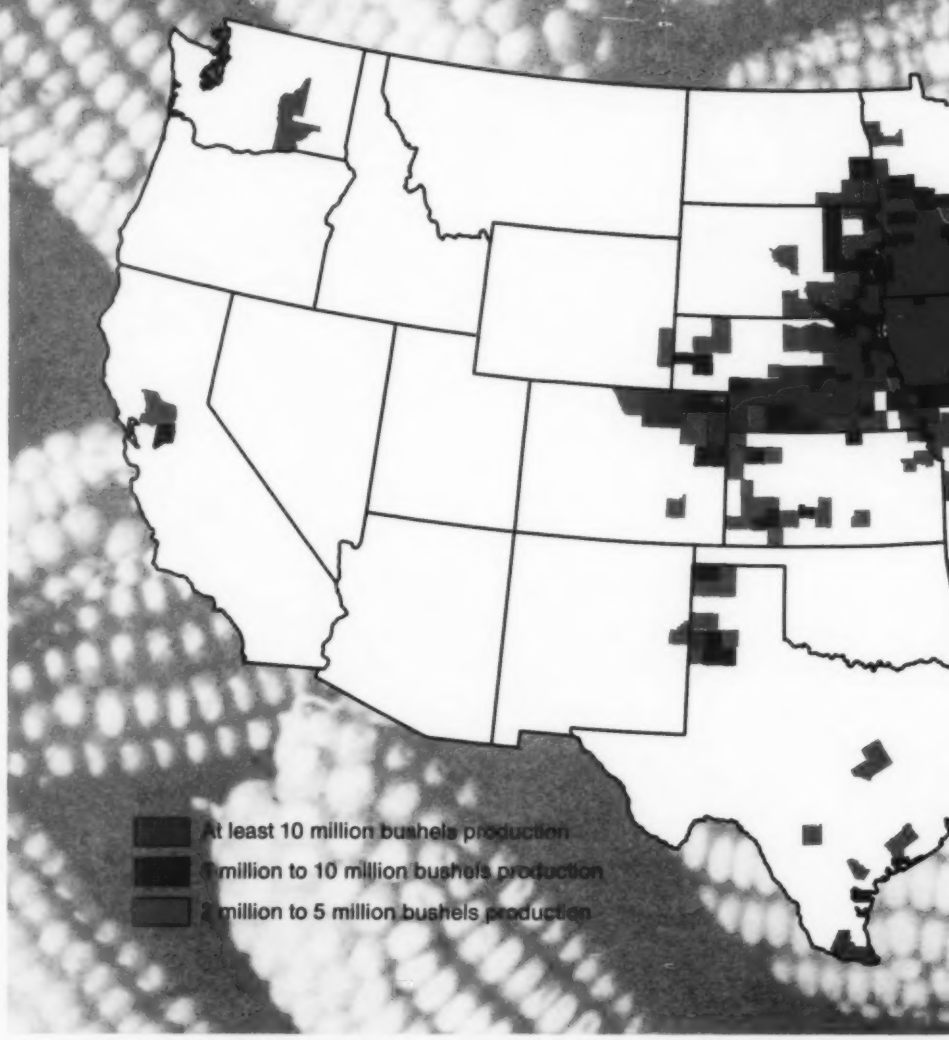
In only 5 States Is 2.5 Percent or More of Agricultural Land Foreign-Owned

	Privately Owned Agricultural Land	Foreign-Owned Agricultural Land	Proportion of Agricultural Land Foreign-Owned
	acres		*percent*
Alabama	29,467,000	279,084	0.9
Alaska	400,000	416	0.1
Arizona	10,983,000	270,285	2.5
Arkansas	28,834,000	171,570	0.6
California	47,353,000	922,869	1.9
Colorado	37,527,000	531,939	1.4
Connecticut	2,267,000	1,120	Neg.
Delaware	1,064,000	5,364	0.5
Florida	26,529,000	519,236	2.0
Georgia	33,253,000	578,395	1.7
Hawaii	1,992,000	53,895	2.7
Idaho	15,166,000	18,856	0.1
Illinois	32,326,000	116,463	0.4
Indiana	20,909,000	43,965	0.2
Iowa	33,912,000	31,662	0.1
Kansas	49,911,000	59,961	0.1
Kentucky	22,915,000	78,564	0.3
Louisiana	26,463,000	659,400	2.5
Maine	18,829,000	1,799,794	9.6
Maryland	5,146,000	50,926	1.0
Massachusetts	3,322,000	1,703	Neg.
Michigan	26,117,000	200,595	0.8
Minnesota	36,204,000	296,076	0.8
Mississippi	26,629,000	437,693	1.6
Missouri	40,025,000	59,173	0.1
Montana	54,189,000	444,476	0.8
Nebraska	45,397,000	70,552	0.2
Nevada	7,586,000	155,507	2.0
New Hampshire	4,682,000	84,517	1.8
New Jersey	2,894,000	26,642	0.9
New Mexico	34,451,000	557,115	1.6
New York	24,257,000	348,589	1.4
North Carolina	27,321,000	262,828	1.0
North Dakota	39,617,000	26,846	0.1
Ohio	22,979,000	161,017	0.7
Oklahoma	38,875,000	31,148	0.1
Oregon	25,685,000	804,523	3.1
Pennsylvania	22,380,000	74,122	0.3
Rhode Island	439,000	0	0
South Carolina	15,932,000	212,695	1.3
South Dakota	38,241,000	42,901	0.1
Tennessee	22,901,000	73,211	0.3
Texas	156,768,000	1,029,885	0.7
Utah	10,779,000	61,710	0.6
Vermont	5,251,000	110,966	2.1
Virginia	21,499,000	116,111	0.5
Washington	23,028,000	402,204	1.7
West Virginia	13,744,000	74,183	0.5
Wisconsin	27,637,000	21,047	0.1
Wyoming	26,142,000	99,135	0.4
Total	**1,290,302,000**	**12,484,738**	**1.0**

Neg. = Negligible.

U.S. Corn Production Is Centered in the Upper Midwest

1987 production by county:


At least 10 million bushels production
1 million to 10 million bushels production
2 million to 5 million bushels production

U.S. farmers produced 7.07 billion bushels of corn during 1987, but only 4.92 billion in 1988. The decrease of 30 percent was due to the severe drought.

Corn is produced in all parts of the nation. The top 10 states accounted for 84 percent of the corn harvested in 1987 and 81 percent in 1988. Illinois and Iowa have been the top two corn-producing states in recent years, with Nebraska usually in third place.

Because of the 1988 drought, which seriously affected the Corn Belt, several states that had been in the top 10 were overtaken in the rankings by states that use irrigation on a substantial number of their fields and were therefore not hurt as badly by the drought.

During the 1980's, the corn crop has been affected by three droughts. In 1980, the yield per acre harvested was 91.0 bushels nationwide, in 1983 it was 81.1, and in 1988 it was 84.6.

An historical overview of corn production shows that yields per acre have fluctuated considerably over the years. "On average, however, yields have increased by about 2 bushels a year since the 1940's," says Larry Van Meir, an economist with USDA's Economic Research Service.

U.S. corn yields averaged 44.1 bushels per acre during the 1950's, 70.5 bushels in the 1960's, 89.6 bushels in the 1970's, and 104.7 bushels so far during the 1980's.

Van Meir notes that yields have increased because of several factors, including new, higher-yielding varieties, heavier fertilizer applications, increased seeding rates, better machinery, larger farms and fields, changes in farming techniques, and increased farming and management skills.

The latest Census of Agriculture, in 1982, showed that 506,000 of the country's 2.2 million U.S. farms were producing corn. Corn is the third largest U.S. cash crop.

Concentration in corn production has been increasing, even though the crop is not as concentrated as some others. The number of farms producing corn declined between 1974 and 1982 but the number of acres of corn harvested increased.

The export picture for corn is brighter this year, Van Meir says. "We expect to export 2.1 billion bushels this year, which would be the largest amount since the 1981/82 marketing year," he says. Increased shipments to the Soviet Union for livestock feed and a smaller crop in Argentina are factors in the increasing U.S. exports.

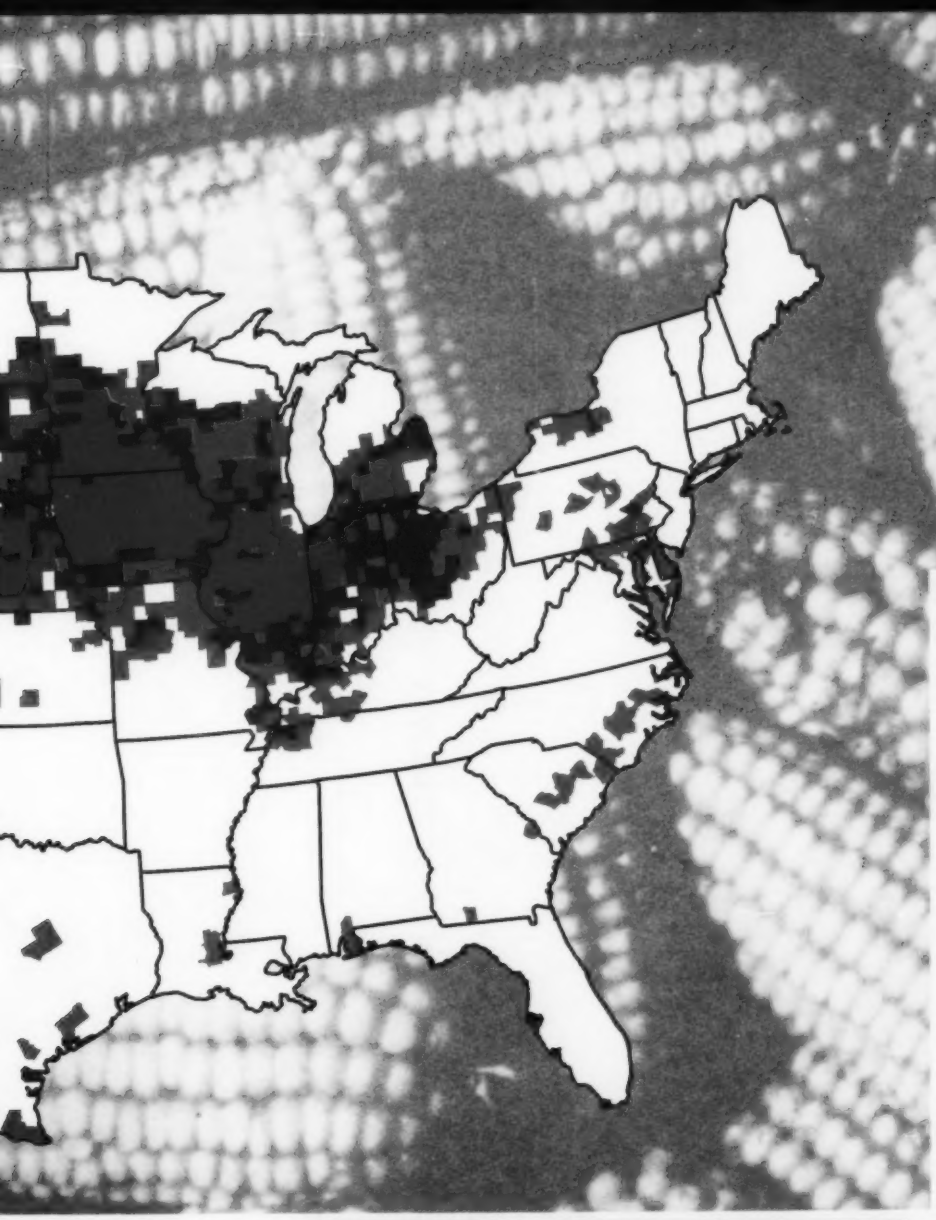
Corn is a versatile crop that has many uses, including for sweeteners, starch, alcohol, dry-milled and alkaline cooked products. But the primary use has been as a feed for livestock. Over the last 6 years, according to Van Meir, about 60 percent of corn was used for feed.

—Martha Evans

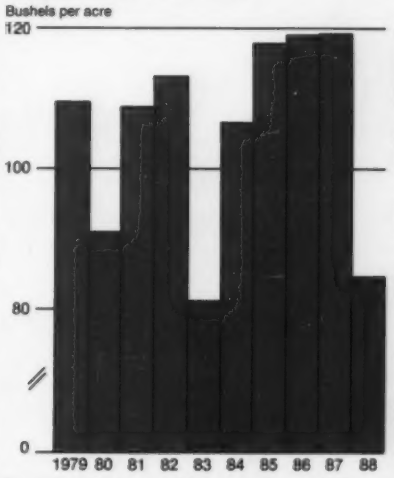
Iowa Has Remained the Top Corn-Producing S the Last 3 Years

	1986	1987
		bushels
Iowa	1,626,750,000	1,306,500,000
Illinois	1,404,000,000	1,201,200,000
Nebraska	896,000,000	812,200,000
Minnesota	707,600,000	635,000,000
Indiana	695,400,000	631,800,000
Ohio	476,160,000	362,400,000
Wisconsin	365,800,000	330,400,000
Missouri	280,720,000	242,950,000
Michigan	257,250,000	185,250,000
South Dakota	233,700,000	228,250,000
U.S. total	**8,249,864,000**	**7,072,073,000**

Source: National Agricultural Statistics Service, USDA.



Corn Yields Per Harvested Acre in the United States, 1979-1988



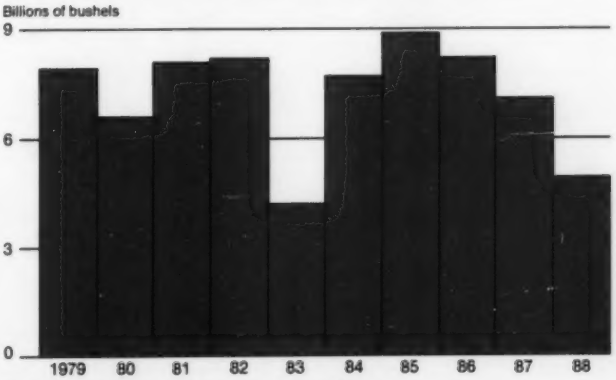
Source: *Crop Production 1988 Summary*, January 1989, National Agricultural Statistics Service, USDA.

Producing State

1987	1988
ushels	
6,500,000	898,800,000
1,200,000	700,800,000
2,200,000	818,400,000
5,000,000	347,800,000
1,800,000	415,000,000
2,400,000	255,000,000
0,400,000	130,650,000
2,950,000	153,520,000
5,250,000	112,000,000
3,250,000	132,000,000
2,073,000	**4,921,191,000**

ice, USDA.

Corn Production in the United States, 1979-1988



Source: *Crop Production 1988 Summary*, January 1989, National Agricultural Statistics Service, USDA.

Top Ten Corn Yielding States, 1987

	bushels per acre
Washington	170.0
Oregon	165.0
California	160.0
Colorado	155.0
New Mexico	155.0
Utah	140.0
Indiana	135.0
Illinois	132.0
Nebraska	131.0
Iowa	130.0
Idaho	130.0
U.S. average	**119.4**

Source: *Crop Production 1988 Summary*, January 1989, National Agricultural Statistics Service, USDA

1989 Reports Calendar

July-December

Titles of Situation-Outlook and other periodic reports issued by the Economic Research Service are printed in color. Summaries of reports are released at 3 p.m. ET on the dates shown. Copies of complete reports are due off press about a week later. To request subscription information on any of these reports, write USDA/ERS, P.O. Box 1608, Rockville, MD 20850, or call 1-800-999-6779.

The *World Agricultural Supply and Demand Estimates* reports, issued by the World Agricultural Outlook Board,

JULY

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
3	4	5 Farm Production Expenditures, 1988-Preliminary Egg Products	6 Dairy Products Poultry Slaughter	7 Celery
10 Noncitrus Fruits & Nuts-Midyear Supplement	11	12 World Agricultural Supply & Demand Crop Production	13 Livestock & Poultry Turkey Hatchery	14 Pacific Rim Milk Production
17 China	18 Vegetables	19 Dairy	20 Agricultural Outlook Mink Catfish	21 Rice Yearbook Livestock & Poultry Update Cattle on Feed Livestock Slaughter Cold Storage
24	25 Eggs, Chickens, & Turkeys	26	27 Oil Crops Yearbook	28 Nat'l. Food Review Peanut Stocks & Processing Cattle
31 Agricultural Prices Catfish Production				

AUGUST

MONDAY	TUESDAY	WEDNESDAY
	1 Fruit Yearbook Egg Products	2 Farm Production Expenditures, 1988, Final
7 World Food Needs Celery	8 Agricultural Resources[1]	9 Developing Economies
14 Farm Labor	15 Milk Production	16
21 Catfish	22 Feed	23 Vegetables & Specialties Cold Storage Cranberries
28	29 Agricultural Income & Finance Peanut Stocks & Processing	30 Dairy Yearbook

OCTOBER

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
2 Egg Products	3 Poultry Slaughter	4	5 Dairy Products	6 Celery
9	10	11 Vegetables	12 World Agricultural Supply & Demand Crop Production	13 Turkey Hatchery
16 Milk Production	17	18	19 Dairy	20 Agricultural Outlook Catfish Cattle on Feed Livestock Slaughter
23 Rice Livestock & Poultry Update Cold Storage	24	25 Eggs, Chickens, & Turkeys	26 Oil Crops	27 Nat'l. Food Review
30 Peanut Stocks & Processing	31 Rice Stocks Agricultural Prices			

NOVEMBER

MONDAY	TUESDAY	WEDNESDAY
		1
6 Dairy Products	7 Celery	8 Vegetables & Specialties Yearbook
13 World Food Needs	14 Livestock & Poultry Turkey Hatchery Farm Labor	15
20 Agricultural Outlook Catfish	21 Wheat	22 Cold Storage Eggs, Chickens, & Turkeys
27 Cotton & Wool Livestock & Poultry Update Livestock Slaughter	28 OUTLOOK CONFERENCE Exports Peanut Stocks & Processing	29 OUTLOOK CONFERENCE

[1]*The Agricultural Resources report focuses on Inputs Aug. 8 and Cropland, Water, and Conservation Sept. 21.*

are also shown in color. These reports are issued in their entirety at 3 p.m. ET on the indicated dates. To request subscription information, write EMS Information, Room 228, 1301 New York Ave. NW, Washington, DC 20005-4789, or call 202-786-1494.

Titles of reports issued by the National Agricultural Statistics Service are printed in black. Complete reports are released, most at 3 p.m. ET, on the dates shown. To request subscription information, write USDA/NASS, P.O. Box 1608, Rockville, MD 20850, or call 1-800-999-6779.

For details on electronic access to reports of the Economic Research Service or National Agricultural Statistics Service, call 202-447-5505.

SEPTEMBER

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
				1 *Egg Products* *Walnut Production*
4	5	6 *Poultry Slaughter* *Dairy Products*	7 *Fruit* *Celery*	8 *Vegetables*
11	12 *World Agricultural Supply & Demand* *Crop Production*	13 *Turkey Hatchery*	14 *Sugar & Sweeteners*	15 *Milk Production*
18 *Cattle on Feed*	19 *Tobacco*	20 *Agricultural Outlook* *Hop Stocks* *Catfish*	21 *Agricultural Resources*[1]	22 *Livestock & Poultry Update* *Livestock Slaughter* *Cold Storage*
25 *World Agriculture* *Citrus Fruits*	26 *Eggs, Chickens, & Turkeys*	27 *Aquaculture* *Potatoes*	28 *Peanut Stocks & Processing* *Grain Stocks*	29 *Agricultural Prices* *Hogs & Pigs* *Trout Production*

DECEMBER

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
				1 *Egg Products*
4 *World Agriculture* *Poultry Slaughter*	5	6 *Dairy Products* *Celery*	7	8
11	12 *World Agricultural Supply & Demand* *Crop Production*	13 *Agricultural Income & Finance* *Turkey Hatchery*	14	15 *Milk Production* *Vegetables* *Potato Stocks*
18 *Tobacco Yearbook* *Cattle on Feed*	19 *Sugar & Sweeteners*	20 *Agricultural Outlook* *Catfish*	21 *Livestock & Poultry Update* *Cold Storage* *Eggs, Chickens, & Turkeys* *Livestock Slaughter*	22
25	26	27	28 *Peanut Stocks & Processing*	29 *Agricultural Prices*

THURSDAY / FRIDAY

THURSDAY	FRIDAY
3	4 *Poultry Slaughter* *Dairy Products*
10 *World Agricultural Supply & Demand* *Crop Production*	11 *Vegetables* *Turkey Hatchery*
17 *Livestock & Poultry* *Cattle on Feed*	18 *Agricultural Outlook* *Sugar Market Statistics* *Mushrooms*
24 *Wheat* *Eggs, Chickens, & Turkeys*	25 *Exports* *Livestock & Poultry Update* *Filbert Production* *Livestock Slaughter*
31 *Cotton & Wool Yearbook* *Rice Stocks* *Agricultural Prices*	

THURSDAY / FRIDAY

THURSDAY	FRIDAY
2 *Egg Products*	3 *Fruit* *Poultry Slaughter*
9 *World Agricultural Supply & Demand* *Crop Production*	10
16 *Milk Production*	17 *Feed* *Sugar Market Statistics* *Cattle on Feed*
23	24
30 *OUTLOOK CONFERENCE* *Agricultural Prices*	

Environmental Goals: A Challenge for Lawmakers

Implementing the conservation provisions of the 1985 farm bill provided some clues to policymakers and farmers alike about what works and what needs to be worked on.

Economist Katherine Reichelderfer of USDA's Economic Research Service lists several issues that could be considered for the new farm bill:

- The assignment of priorities to the multiple objectives of farm and conservation legislation, or the design of separate programs for separate objectives.
- The likely additional cost of programs that address new conservation or environmental objectives along with the usual goals for farm program legislation.
- The design of new policies and programs to anticipate shifting social and economic conditions.
- The need for an improved exchange of information between the officials administering the conservation provisions and the farmers, particularly if additional environmental goals are added to the new farm legislation.
- The need for a balance between the intent of the conservation provisions and the flexibility allowed to the officials implementing them.

Reichelderfer says that the 1985 farm bill lifted conservation goals to a status equal to the traditional objectives of supporting commodity prices and protecting farm income. For the first time, basic farm legislation included goals that went beyond the usual concerns of farmers and consumers. Also new was the idea of distinguishing farmland by its physical characteristics.

Conservation goals included: reducing erosion and sedimentation, improving water quality, preventing conversion of highly erodible land and wetlands to crop production, and creating better habitats for fish and wildlife. Removing erodible land from production helped accomplish additional goals of controlling surplus commodities and providing income for farmers.

Conservation programs of the 1985 farm bill are models for initiatives to be considered in forming the next farm bill.

This reorientation of goals led to different approaches in designing programs and gave new, often unfamiliar, responsibilities to the program's administrators.

Now those programs, and the experience gained from carrying them out, are models for initiatives to be considered in forming the next farm bill.

USDA is mandated to carry out the conservation goals that were written into the farm bill. The goals are broad and allow discretion to program administrators. The conservation provisions include these goals but are not very specific about how they should be carried out.

Some of the farm bill's conservation programs have multiple objectives. For instance, the selection of land for participation in the Conservation Reserve Program (CRP) may be based on any one of different goals—erosion control, acreage reduction, or income assistance for the farmer—or a combination of these.

Reichelderfer suggests that multiple-objective programs would be more effective if policymakers would rank objectives in relation to one another.

No one goal is likely to be fully achieved without tradeoffs in the others, says Reichelderfer. For example, the CRP objectives of controlling erosion and reducing surplus commodities are, in some ways, complementary. When acreage is enrolled in the CRP, surplus crop production should decline.

However, because land's erodibility and productivity are not perfectly related, the most erosion control cannot be achieved by the CRP without giving up some control over surpluses, says Reichelderfer. Similarly, using the CRP primarily to control surpluses could significantly limit the program's potential to reduce soil erosion, she adds.

Cost Is an Important Factor

One of the original selling points for including conservation provisions, particularly the CRP, in farm legislation, was that they would pay for themselves, says Reichelderfer. Rental and cost-share payments were expected to be offset by reductions in deficiency payments.

During the first 2 years of CRP implementation, the program did, indeed, seem to be proceeding at no net cost to the federal government, says Reichelderfer. Rental payments were relatively low for most of the acreage enrolled early in the program. Commodity prices were also low so the savings in deficiency payments were substantial.

But as the program has progressed, the rental rates have crept upward, says Reichelderfer.

Commodity prices have risen since the CRP's inception. This rise happened gradually at first, then rapidly due to drought conditions last summer.

As farmers' expectations shift toward higher commodity prices in the future, the CRP may seem an unattractive alternative unless rental rates increase substantially, says Reichelderfer.

Another provision of the 1985 farm bill requires that conversion of highly erodible land into crop production be made under approved conservation plans to prevent further erosion. The penalty for noncompliance is forfeiture of eligibility for farm program payments.

Reichelderfer notes that this ties conservation to commodity programs. Therefore, the success of conserving soil resources becomes a function of the attractiveness of participating in the commodity programs.

Linking commodity and compliance programs works when commodity prices are low and farmers are more dependent on

farm programs, such as when the law was passed. But with reduced stocks, higher commodity prices, and improved prospects for market-determined farm income, the tight linkage between programs is less effective, says the economist. And there is no incentive to comply if the farmer is not a participant in any USDA program.

In order to attract more eligible acres into the CRP and other conservation programs, other incentives and/or higher payments may be needed, says Reichelderfer. If the new farm legislation is to address environmental and conservation issues along with farm income and food prices, additional costs should be expected, says Reichelderfer. No matter how complementary the set of policies, they will likely require additional public outlays and administrative expense, she adds.

Good Information Is Vital

The more flexibility that is built into a program, the more likely it is that its regulations will sometimes be changed to adapt to new conditions or to refine program performance, says Reichelderfer. While such flexibility is good, changes in the regulations could cause problems getting the message to all concerned.

A survey of local program administrators in April 1988 showed that 13 percent felt

Conservation Reserve Program acreage in some counties was approved for hay cutting as emergency relief during last summer's drought.

Has 1985 Farm Bill Achieved Its Goals?

How are the conservation programs of the 1985 farm bill working? And are they fully meeting the conservation goals written into them?

The Conservation Reserve Program (CRP) has undergone several modifications since it was initiated in early 1986. The program identified 69 million highly erodible acres. Landowners who wished to enroll acreage in the program submitted bids on rental rates. Bids were accepted if they were less than or equal to an unannounced maximum acceptable level.

Results of the first sign-up were disappointing, says ERS economist Katherine Reichelderfer. Less than 20 percent of 4.8 million acres bid were accepted.

In subsequent sign-ups, eligibility criteria were expanded and acceptable rental rates were announced in advance. To encourage participation in the Corn Belt, a one-time bonus payment was offered for corn acreage.

By the end of 1987, CRP enrollment was up to 22 million acres.

In 1988, USDA made several additional changes in the program. To encourage tree planting on CRP acreage, erodibility requirements were relaxed for enrollees who planted trees. Land used as filter strip areas between cropland and bodies of water was made eligible for the program regardless of its erodibility. To balance regional distribution of CRP land, rental rates were adjusted upward in low participation areas.

At the time of the 1988 drought, with commodity prices rising, CRP sign-ups lagged. Only about 2.5 million acres were added to the program. The total in the CRP was then about 28 million acres, and concerns arose over whether it would be possible to meet the goal of 40-45 million acres by 1990, says Reichelderfer.

Sodbuster and Swampbuster provisions were implemented soon after passage of the 1985 farm bill. From December 1986 to August 1988, 105 farmers forfeited USDA farm program benefits because they converted highly erodible land to crop production without implementing a conservation plan. Five farmers forfeited benefits for converting wetlands to crop production.

Conservation Compliance is in a much earlier stage of implementation. While the general nature of compliance provisions has been advertised to farmers over the last 2 years, the regulations for implementation were only recently finalized.

By the summer of 1988, USDA determined the highly erodible status of close to 100 million acres of cropland, and contacted its owners and operators. By the end of 1988, over 70 percent of the conservation plans that will need to be developed by 1990 were in place.

The regulations for compliance are somewhat less precise than originally planned, says Reichelderfer. Strict adherence to the soil-loss tolerance rate will not be required in order to get a conservation plan approved. Soil Conservation Service field offices will judge whether plans are economically and technically feasible to meet compliance requirements.

There are also several programs or provisions that are authorized by the 1985 farm bill that have not been implemented at this point. For example, says the economist, the farm bill authorizes a multiyear set-aside program for which no implementation strategy has been developed.

Conservation Programs Use Various Methods

The 1985 farm bill has a number of conservation provisions. The major ones are:

Conservation Reserve Program
This program provides annual rental payments to landowners or operators who retire highly erodible and other environmentally critical lands from crop production for 10 years. It also provides technical assistance and cost-share payments for up to 50 percent of the cost of establishing a soil-conserving cover on the retired land. Rental payments to any person may not exceed $50,000 per year. County enrollment is limited to 25 percent of cropland unless a special waiver is given by USDA.

Highly Erodible Land Provisions
These include "Sodbuster" and Conservation Compliance. The Sodbuster provision requires that farmers who convert highly erodible native range or woodland to crop production must do so under an approved conservation plan to maintain soil erosion at or below the soil loss tolerance level. The penalty for noncompliance is forfeiture of eligibility for USDA program benefits.

Conservation Compliance requires that farmers who use highly erodible land to produce government program commodities begin to implement approved conservation plans on such lands by January 1, 1990. Such plans must be fully implemented by 1995. The penalty for noncompliance is loss of eligibility for USDA program benefits.

The Swampbuster provision requires that farmers who convert wetlands to crop production lose eligibility for USDA program benefits unless it is determined that conversion would have only a minimal effect on water and animal life.

that farmers in their counties inaccurately recognized the existence of "highly erodible land" in their own holdings. About one-fourth of the administrators felt they needed more factual information on what is erodible land. They also needed educational materials in order to implement the conservation provisions in their counties.

Administrators also need more feedback about how the programs are doing. Unfortunately, the lags in providing these data are often so long that they are no longer useful in designing remedial action.

A two-way transfer of information between local and national administrators will be especially important when additional environmental quality goals are incorporated into farm legislation, says Reichelderfer.

Ideas have already informally surfaced from environmental and conservation groups and congressional staffs for possible inclusion in the new farm legislation, says Reichelderfer. These include:

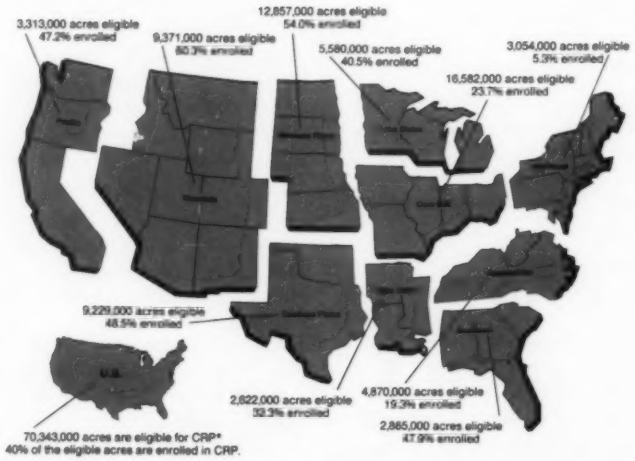
- Legislating a "chemical compliance" provision (modeled after the Conservation Compliance program), aimed at requiring farm program participants to use specified fertilizer and pesticide practices.
- Constructing conservation easements for the preservation of wetlands.
- Protecting ground water quality by emphasizing management practices on land near wellheads.

Reichelderfer says that with the passage of the 1985 farm bill, farm legislation began "what is likely to be a swift evolution away from strict focus on farm income and food and fiber costs, towards increasing incorporation of environmental quality objectives."

She maintains that the current farm bill's conservation provisions are "modest forebearers of an inevitable trend fueled by increasing concern for water quality and other environmental problems related to agricultural production." □

[Based on information provided by economists Katherine Reichelderfer and Tim Osborn of the Resources and Technology Division, Economic Research Service.]

Over 28 Million Acres Were Enrolled in the Conservation Reserve Program as of the End of 1988, With the Mountain and the Northern Plains States Having the Highest Enrollment Rates



*Eligible acres are based on 25% limitation on county participation.

REPORTS IN THE NEWS

Chartbook Tells Agriculture's Story

Charts of all types, depicting both recent developments and long-term trends in agriculture, fill the 112 pages of USDA's *1989 Agricultural Chartbook.*

The more than 300 charts cover a wide range of subjects. A new sector of agriculture included this year is aquaculture. Other topics range from U.S. exports to foreign farm output, broilers to vegetables, food prices to consumption trends, farm income to farm productivity, and rural employment to rural poverty.

A detailed index makes the chartbook easy to use. Each chart is designed to convey a message quickly and simply. The chartbook can serve as an important reference work in your bookshelf. Printed in black and white, the charts can be easily reproduced and used as teaching tools or visual aids for speeches or reports.

The chartbook also offers names and telephone numbers of specialists to contact for more information.

1989 Agricultural Chartbook *Published March 1989; 112 pages; $8.00 ($10 to non-U.S. addresses).*

Distributing Federal Funds

Metropolitan counties received substantially higher levels of per capita federal funding than nonmetro counties in fiscal year 1985.

The gap between metro and nonmetro funding increased slightly between 1980 and 1985 because of a rise in defense spending. Metro counties received greater amounts of defense spending in 1985, while nonmetro counties depended more on agricultural assistance, natural resource programs, and income transfers.

This report examines the geographic distribution of federal funds, with the county as the basic unit of analysis.

The author notes that during the early 1980's, federal spending for procurement (particularly defense), retirement and survivors' benefits, medical benefits, and agricultural assistance payments grew dramatically, while spending for grants and salaries lagged. However, the overall distribution of funding between metro and nonmetro areas remained fairly stable.

The largest component of federal spending was direct payments to individuals—45 percent in 1985. This category consists primarily of retirement programs and other income transfer programs.

Procurement expenditures grew by 49 percent between 1981 and 1985, to $175.7 billion. Grants to state and local governments, in the same period, grew by only 8 percent, to $100.8 billion.

Per capita federal spending in nonmetro counties in 1985 was about 22 percent below the level of spending in metro counties—$2,478 compared to $3,192.

This report also groups counties on the basis of social and economic characteristics. The lowest level of spending in nonmetro counties according to this grouping was found in "persistent low-income" counties, $2,104 per capita.

In nonmetro counties, income security benefits accounted for nearly two-thirds of all federal spending and defense spending approximately 12 percent. In metro counties, about 48 percent of the federal spending was for income security benefits and about 32 percent for defense spending.

Agricultural assistance payments were relatively unimportant in most nonmetro counties, but they were very important for farm-dependent counties. More than 18 percent of all federal spending in farm-dependent counties consisted of agricultural assistance payments—$491 per capita in 1985.

Geographic Distribution of Federal Funds in 1985 *by Elliott J. Dubin. Published March 1989; 110 pages; $8.00 ($10 to non-U.S. addresses).*

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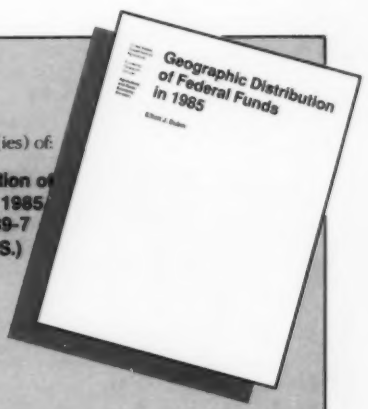

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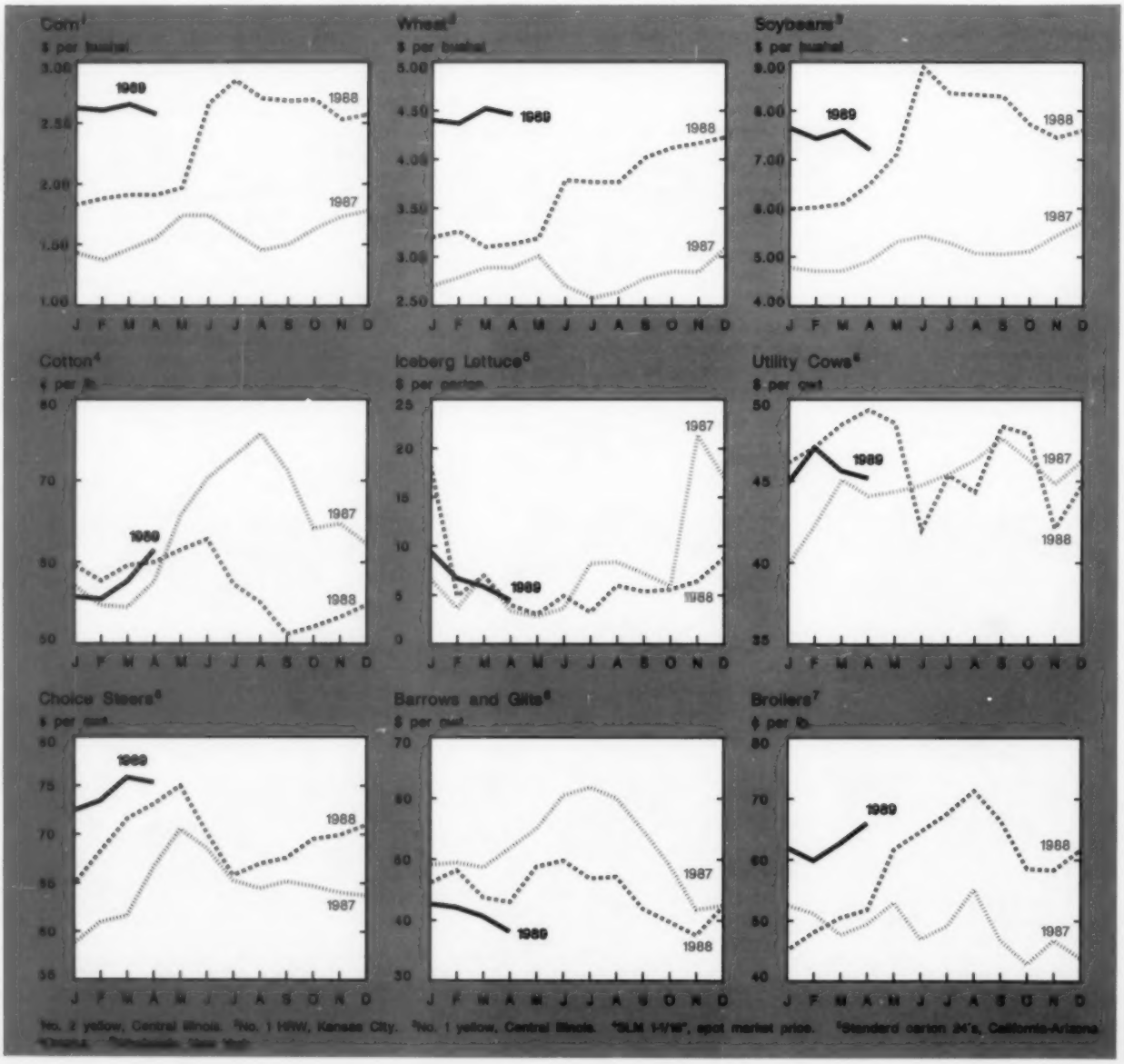
FARMLINE TRENDS

Monthly Price Monitor

USDA's April 1989 index of farm prices decreased 2% from March but was 12% above its year-earlier level. Corn prices declined 8¢ to $2.57, while wheat dropped 6¢ to $4.46 per bushel. Soybeans slipped to $7.21 per bushel, the lowest since May 1988. Cotton increased to 61.4¢ per lb, the highest since June 1988. Iceberg lettuce declined to $4.48 per carton. In the meat animals area, broilers increased to 66¢ a lb, the highest since September 1988.

Choice steers lost 50¢ to $75.29 per cwt. Utility cows lost 45¢ per cwt to $45.19. Barrows and gilts dropped $2.50 per cwt to $38.15. All prices shown are monthly averages.



[1]No. 2 yellow, Central Illinois. [2]No. 1 HRW, Kansas City. [3]No. 1 yellow, Central Illinois. [4]SLM 1-1/16", spot market price. [5]Standard carton 24's, California-Arizona [6]Omaha. [7]Delmarva, New York.

Off-Farm Jobs: Prospects Vary by Area

Many farmers faced with economic pressures are looking for jobs off the farm to make ends meet. But often they are disadvantaged in the labor market because they are older, slightly less educated, and live long distances from where the good jobs are located.

Data were provided by sociologists Leslie A. Whitener and Timothy Parker of the Agriculture and Rural Economy Division, Economic Research Service.

The 1980 Census of Population divided the country into 382 labor market areas (LMA's)—groups of counties in each of which a majority of the population work as well as live. Whitener and Parker used data from the LMA's to study what farmers can expect in the job market.

The Northeast Ranked Highest in Employment Opportunities

	Northeast	Midwest	South	West
Percent of nation's farmers	6%	41%	41%	12%
Age Gap[2]	1	3	2	4
Education Gap[3]	4	2	3	1
Unemployment rate, 1986	1	2	3	4
Earnings per job, 1984	1	3	4	2
Employment growth, 1982-86	2	4	1	3
Earnings growth, 1982-84	2	1	3	4
Total	11	15	16	18

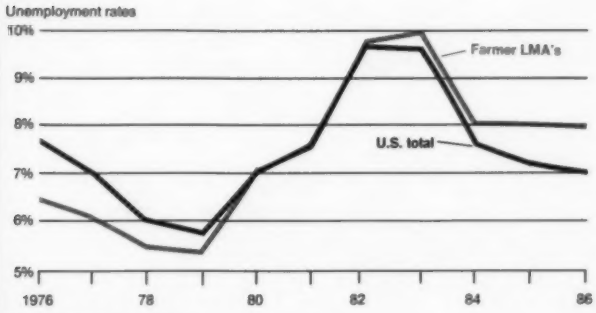
[1]Numbers are the relative rankings from low to high of the 4 regions (1=best opportunities, 4=worst opportunities). [2]Proportion of the labor pool in Labor Market Areas aged 45-64 minus the proportion of farmers aged 45-64. [3]Proportion of the labor pool in LMA's completing high school minus the proportion of farmers aged 25-64 completing high school.

Farmers Are Generally Older and Slightly Less Educated Than Others in the Labor Force.

	Labor Force[1]	Farmers
Age:	Percent	
Less than 25	23.4	6.5
25-34	26.9	14.3
35-44	18.9	14.9
45-54	15.8	18.7
55-64	11.5	22.8
65 and over	3.5	22.7
Education of those 25 years and older[2]:		
0-8 years	12.4	18.6
9-11	13.4	14.6
12	39.1	40.5
13 and over	35.1	26.3

[1]Labor force computed by Labor Market Area. [2]Excludes farmers 65 years and older. Source: 1980 Census of Population.

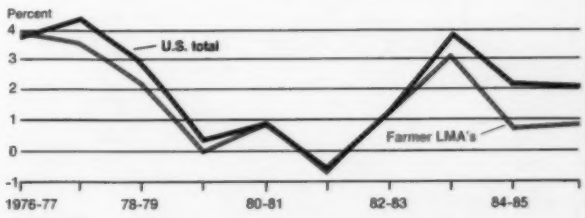
Since the 1980 Recession, Farmers Face Higher Unemployment Rates in Their LMA's Than the Total Rate in the United States



Source: Bureau of Labor Statistics

Farmers were more likely to live in LMA's that did not recover as quickly or as strongly from the 1980-82 recession as LMA's in general. Although earnings in the Midwest grew faster than earnings for the nation in general, job opportunities even there grew at less than half the rate for other regions.

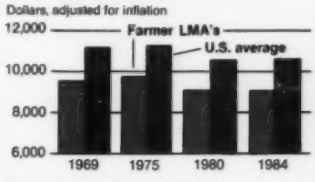
After the Recession, Employment Growth in Farmer LMA's Lagged Behind the U. S. Total



Source: Bureau of Labor Statistics

In general, farmers are more likely than nonfarm workers to live in LMA's that offer relatively low wages. In 1984, farmers lived in areas where average labor and proprietor earnings per job were $15,751. These earnings were about 16 percent lower than those for the total labor force.

Farm LMA's Have Been Consistently Below the National Average in Earnings Per Job



Source: Bureau of Economic Analysis

The analysts suggest that the off-farm employment outlook is improving for farmers. Unemployment in the LMA's where most farmers live fell from 10 percent during the recession of the early 1980's to about 8 percent by 1986. Educational levels are improving more rapidly among farmers than among the labor force as a whole, helping farmers to become more competitive in securing off-farm work.

In the LMA's where farmers lag in education, training programs are needed, the sociologists say. Creating new jobs in areas where the farmers do not have the required skills would not benefit the farmers.

But for farmers in areas where their education levels are about equal to the local labor force, such as in the West, training and educational programs may prove less useful. In those areas farmers could be forced to relocate to find the "good jobs." Programs directed toward local area economic development are most needed.

—Judith Foulke

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